

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Withdrawn) A method of inhibiting morphogenesis of a pestivirus or a flavivirus comprising administering an effective amount of a nitrogen-containing virus-inhibiting compound, or a pharmaceutically acceptable salt thereof, to a cell or an individual infected with said virus, wherein said nitrogen-containing virus-inhibiting compound is comprised of an N-C<sub>8</sub>-C<sub>16</sub> alkyl group or an oxa-substituted derivative thereof with the proviso that said nitrogen-containing virus-inhibiting compound is not N-nonyl-1,5-deoxy-1,5-imino-D-glucitol (N-nonyl-DNJ).
2. (Withdrawn) The method of claim 1, wherein the nitrogen-containing virus-inhibiting compound includes an N-C<sub>8</sub>-C<sub>10</sub> alkyl group or an oxa-substituted derivative thereof.
3. (Withdrawn) The method of claim 2, wherein the nitrogen-containing virus-inhibiting compound is N-nonyl-1,5-dideoxy-1,5-imino-D-galactitol (N-nonyl DGJ) or N-nonyl-1,5,6-trideoxy-1,5-imino-D-galactitol (N-nonyl MeDGJ).
4. (Withdrawn) The method of claim 2, wherein the nitrogen-containing virus-inhibiting compound includes an N-oxa-nonyl group.
5. (Withdrawn) The method of any one of claims 1-4, wherein the nitrogen-containing virus-inhibiting compound is selected from the group consisting of N-alkylated piperidines, N-alkylated pyrrolidines, N-alkylated phenylamines, N-alkylated pyridines, N-alkylated pyrroles, N-alkylated amino acids, and oxa-substituted derivatives thereof.
6. (Withdrawn) The method of claim 5, wherein the nitrogen-containing virus-inhibiting compound is an N-alkylated piperidine, N-alkylated pyrrolidine, or oxa-substituted derivative thereof which is an imino sugar.

7. (Withdrawn) The method of any one of claims 1-4, wherein the nitrogen-containing virus-inhibiting compound has an  $IC_{50}$  of about 20  $\mu$ M or less for inhibition of hepatitis B virus.

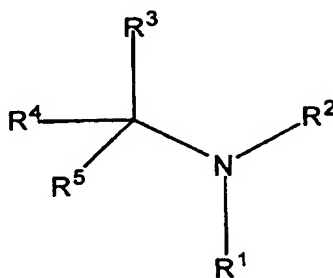
8. (Withdrawn) The method of any one of claims 1-4, wherein the nitrogen-containing virus-inhibiting compound has an  $IC_{50}$  of about 5  $\mu$ M or less for inhibition of hepatitis B virus.

9. (Withdrawn) The method of any one of claims 1-4, wherein the nitrogen-containing virus-inhibiting compound has an  $IC_{50}$  of about 20  $\mu$ M or less for inhibition of hepatitis B virus.

10. (Withdrawn) The method of any one of claims 1-4, wherein the nitrogen-containing virus-inhibiting compound has an  $IC_{50}$  of about 5  $\mu$ M or less for inhibition of bovine viral diarrhea virus.

11. (Withdrawn) The method of any one of claims 1-10, wherein the nitrogen-containing virus-inhibiting compound does not inhibit  $\alpha$ -glucosidase and ceramide glucosyl transferase as well as N-nonyl-DNJ.

12. (Withdrawn) The method of claim 1, wherein the nitrogen-containing virus-inhibiting compound has the formula:



wherein:

R<sup>1</sup> is a C<sub>8</sub>-C<sub>16</sub> alkyl or an oxa-substituted derivative thereof;

R<sup>2</sup> is hydrogen, R<sup>3</sup> is carboxy or a C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, or R<sup>2</sup> and R<sup>3</sup>, together, are

$\text{---}(\overset{\text{X}}{\underset{\text{Y}}{\text{C}}})_n\text{---}$  or  $\text{---}(\text{CXY})_n\text{---}$ , wherein n is 3 or 4, each X, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy, and each Y, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, aroyloxy, and deleted;

R<sup>4</sup> is hydrogen or deleted; and

R<sup>5</sup> is selected from the group consisting of hydrogen, hydroxy, amino, substituted amino, carboxy, alkoxycarbonyl, aminocarbonyl, alkyl, aryl, aralkyl, alkoxy, hydroxyalkyl, acyloxy, and aroyloxy, or R<sup>3</sup> and R<sup>5</sup>, together, form a phenyl and R<sup>4</sup> is deleted; wherein when R<sup>2</sup> and R<sup>3</sup>, together, are  $\text{---}(\text{CXY})_n\text{---}$  and R<sup>4</sup> is deleted, all Y are deleted, or a physiologically acceptable salt or solvate of said compound.

13. (Withdrawn) The method of claim 12, wherein R<sup>1</sup> is a C<sub>8</sub>-C<sub>10</sub> alkyl or an oxasubstituted derivative thereof.

14. (Withdrawn) The method of claim 13, wherein R<sup>2</sup> is hydrogen, R<sup>3</sup> is carboxy or C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, R<sup>4</sup> is hydrogen, and R<sup>5</sup> is selected from the group consisting of hydrogen, hydroxy, amino, substituted amino, carboxy, alkoxycarbonyl, aminocarbonyl, alkyl, aryl, aralkyl, alkoxy, hydroxyalkyl, acyloxy, and aroyloxy.

15. (Withdrawn) The method of claim 14, wherein R<sup>3</sup> is carboxy.

16. (Withdrawn) The method of claim 14, wherein R<sup>3</sup> and R<sup>5</sup>, together, form a phenyl and R<sup>4</sup> is deleted.

17. (Withdrawn) The method of claim 12 or claim 13, wherein R<sup>2</sup> and R<sup>3</sup>, together, are  $\text{---}(\text{CXY})_n\text{---}$ , wherein n is 3 or 4, each X and each Y, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy.

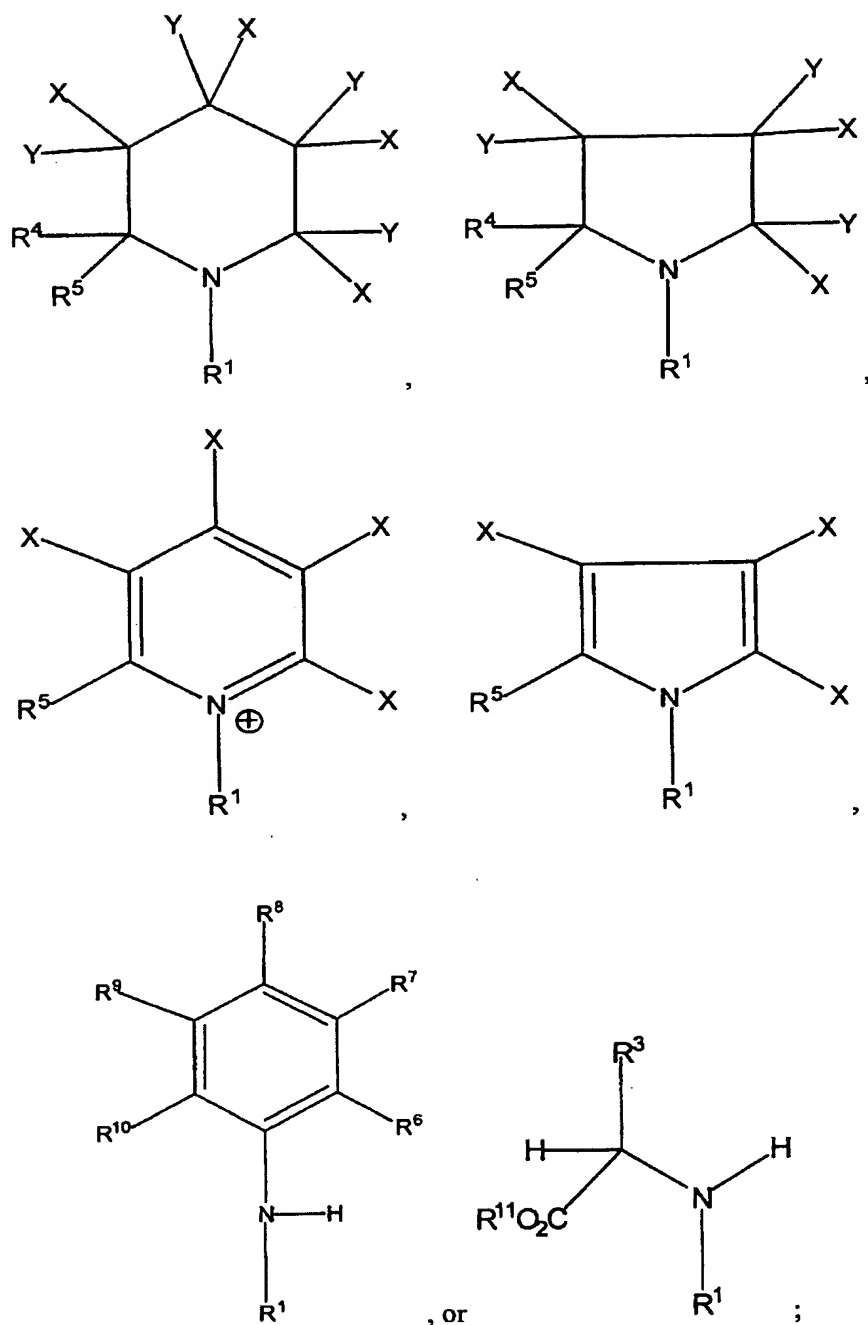
18. (Withdrawn) The method of claim 17, wherein each X is hydrogen and each Y, independently, is selected from the group consisting of hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy.

19. (Withdrawn) The method of claim 18, wherein R<sup>4</sup> is hydrogen and R<sup>5</sup> is hydrogen.

20. (Withdrawn) The method of claim 13, wherein R<sup>4</sup> is deleted and R<sup>2</sup> and R<sup>3</sup>, together, are -(CXY)<sub>n</sub>-, wherein n is 3 or 4, each Y is deleted, and each X, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy.

21. (Withdrawn) The method of claim 13, wherein each X, independently, is selected from the group consisting of hydrogen, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy.

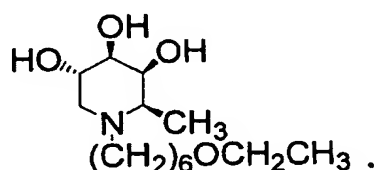
22. (Withdrawn) The method of claim 12, wherein the nitrogen-containing virus-inhibiting compound has the formula:



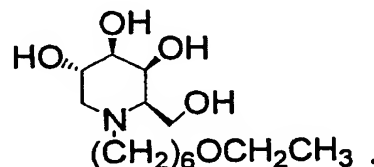
wherein each of  $R^6$ - $R^{10}$ , independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy,  $C_1$ - $C_4$  alkylcarboxy,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy,  $C_1$ - $C_4$  hydroxyalkyl,  $C_1$ - $C_4$  acyloxy, and aroyloxy; and  $R^{11}$  is hydrogen or  $C_1$ - $C_6$  alkyl.

23. (Withdrawn) The method of claim 1, wherein the nitrogen-containing virus-inhibiting compound is selected from the group consisting of N-nonyl altrostatin, N-nonyl-2*R*,5*R*-dihydroxymethyl-3*R*,4*R*-dihydroxypyrrolidine (N-nonyl DMDP), and N-nonyl-2-aminobenzamide (2ABC9).

24. (Withdrawn) The method of claim 1, wherein the nitrogen-containing virus-inhibiting compound is N-(7-oxa-nonyl)-1,5,6-trideoxy-1,5-imino-D-galactitol (N-7-oxa-nonyl MeDGJ)



25. (Withdrawn) The method of claim 1, wherein the nitrogen-containing virus-inhibiting compound is N-(7-oxa-nonyl)-1,5-dideoxy-1,5-imino-D-galactitol (N-7-oxa-nonyl DGJ)



26. (Withdrawn) The method of any one of claims 1-25, wherein a mammalian cell is treated.

27. (Withdrawn) The method of any one of claims 1-25, wherein a human cell is treated.

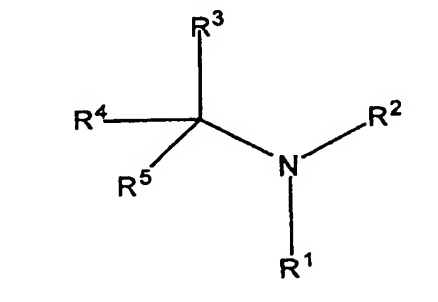
28. (Withdrawn) The method of any one of claims 1-25, wherein a mammal is treated.

29. (Withdrawn) The method of any one of claims 1-25, wherein a human is treated.

30. (Withdrawn) The method of any one of claims 1-25, wherein the virus is a hepatitis B virus.

31. (Withdrawn) The method of any one of claims 1-25, wherein the virus is a hepatitis C virus.

32. (Currently Amended) A compound having the formula ~~shown in claim 12~~



wherein:

R<sup>1</sup> is a C<sub>8</sub>-C<sub>16</sub> alkyl or an oxa-substituted derivative thereof;

R<sup>2</sup> is hydrogen, R<sup>3</sup> is carboxy or a C<sub>1</sub>-C<sub>4</sub> alkoxy carbonyl, or R<sup>2</sup> and R<sup>3</sup>, together, are

$-(C)_{\overset{X}{\diagup} \overset{Y}{\diagdown}}_n-$  or  $-(CXY)_n-$ , wherein n is 3 or 4, each X, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, and aroyloxy, and each Y, independently, is selected from the group consisting of hydrogen, hydroxy, amino, carboxy, C<sub>1</sub>-C<sub>4</sub> alkylcarboxy, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub> acyloxy, aroyloxy, and deleted;

R<sup>4</sup> is hydrogen or deleted; and

R<sup>5</sup> is selected from the group consisting of hydrogen, hydroxy, amino, substituted amino, carboxy, alkoxy carbonyl, aminocarbonyl, alkyl, aryl, aralkyl, alkoxy, hydroxyalkyl, acyloxy, and aroyloxy, or R<sup>3</sup> and R<sup>5</sup>, together, form a phenyl and R<sup>4</sup> is deleted; wherein when R<sup>2</sup> and R<sup>3</sup>, together, are  $-(CXY)_n-$  and R<sup>4</sup> is deleted, all Y are deleted,

wherein said compound is N-alkylated 1-methyl-deoxygalactonojirimycin (MeDGJ) or an oxa-substituted derivative thereof, or a physiologically acceptable salt or solvate of said compound.

33. (Currently Amended) The compound of claim 32, wherein the compound is ~~selected from the group consisting of N-nonyl-1,5-dideoxy-1,5-imino-D-galactitol (N-nonyl DGJ), N-nonyl-1,5,6-trideoxy-1,5-imino-D-galactitol (N-nonyl MeDGJ), and or~~ physiologically acceptable salts or solvates thereof.

34. (Withdrawn-Currently Amended) ~~The A compound of claim 32, wherein the compound is~~ selected from the group consisting of N-nonyl altrostatin, N-nonyl DMDP, N-nonyl-2-aminobenzamide, and physiologically acceptable salts or solvates thereof.

35. (Currently Amended) The compound of claim 32, wherein the compound is ~~selected from the group consisting of N-(7-oxa-nonyl)-1,5,6-trideoxy-1,5-imino-D-galactitol (N-7-oxa-nonyl MeDGJ), N-(7-oxa-nonyl)-1,5-dideoxy-1,5-imino-D-galactitol (N-7-oxa-nonyl DGJ), and or~~ physiologically acceptable salts or solvates thereof.

36. (Withdrawn) A pharmaceutical composition comprising a nitrogen-containing virus-inhibiting compound and a pharmaceutically acceptable carrier, wherein the nitrogen-containing virus inhibiting compound includes an N-C<sub>8</sub>-C<sub>16</sub> alkyl group.

37. (Withdrawn) A method of manufacturing a pharmaceutical composition comprising combining a nitrogen-containing virus-inhibiting compound with a pharmaceutically acceptable carrier, wherein the nitrogen-containing virus inhibiting compound includes an N-C<sub>8</sub>-C<sub>16</sub> alkyl group.